REMARKS

This paper is being provided as a preliminary amendment to the RCE and accompanying Amendment and Response to Office Action filed on May 21, 2003. In this preliminary amendment, claim 3 has been cancelled, claims 20, 21 and 22 have been added, and claims 1, 4, 13 and 19 have been amended to clarify that which Applicant considers to be the invention. Applicant respectfully submits that the amendments to the claims and the new claims are fully supported by the original specification as filed.

Applicant's independent claim 1, as amended herein, recites a wavelength stabilized laser module comprising a semiconductor laser, a temperature calibrating unit to calibrate a temperature of the laser, a lens to arrange light emitted from said semiconductor laser so as to be a single parallel luminous flux, a first photoelectric converting unit to receive one part of the parallel luminous flux and to convert it to a first electric signal, a filter to receive another part of the parallel luminous flux and to continuously change its transmittance depending on wavelengths of the light, a second photoelectric converting unit to receive light transmitted through the filter and to convert it to a second electric signal, wherein a control signal, to be used for stabilization of wavelengths, obtained by computations of the first and second electric signals, is fed back to the laser and/or the temperature calibrating unit so that the laser is able to stably emit laser light having a reference wavelength to be used as a target for stabilization of wavelengths. Claims 2-12, 14, 15, 17, 18, 19 and new claims 20-22 depend on independent claim 1.

Applicant's independent claim 13, as amended herein, recites a wavelength stabilized laser module comprising a semiconductor laser, a temperature calibrating unit to calibrate a

temperature of the laser, a lens to arrange light emitted from said semiconductor laser to a single parallel luminous flux, a first photoelectric converting unit to receive one part of the parallel luminous flux and to convert it to a first electric signal, a filter to receive another part of the parallel luminous flux and to continuously change its transmittance depending on wavelengths of the light, a second photoelectric converting unit to receive light transmitted through the filter and to convert it to a second electric signal, wherein a control signal, to be used for stabilization of wavelengths, obtained by computations of the first and second electric signals, is fed back to the laser and/or the temperature calibrating unit so that the laser is able to stably emit laser light having a reference wavelength to be used as a target for stabilization of wavelengths. Further, the filter is fixed to the second photoelectric converting unit.

U.S. Patent No. 6,389,046 to Stayt, Jr. et al. (hereinafter "Stayt") discloses that a discriminator 300 generates a pair of ideally equi-power optical beams 400, 500, a pair of collimating lenses 410, 510 to produce a pair of substantially parallel, collimated light beams 420, 520 (see Figure 1 and col. 5, line 67 to col. 6, line 5). Further, Stayt discloses that discriminator 301 may be an interferometer of the etalon, Mach-Zender or Fabry-Perot type, a high-pass filter, a low-pass filter, a band-pass filter, or an interference filter, which generates a pair of optical beams of equal wavelength. (See Figure 4, and col. 7, lines 16-20).

It should be noted that *it is not possible to generate a pair of optical beams of equal wavelength by using only a lens.* Thus, Stayt's discriminator 301 cannot made up of only a lens. Accordingly, discriminator 301 is very different from the lens in an object of usage and functional configuration. In Applicant's claimed invention, *since it is not required to generate a pair of optical beams of equal wavelength, a single lens is used instead of the discriminator*

such as an interferometer of the etalon, Mach-Zender or Fabry-Perot type, a high-pass filter, a low-pass filter, a band-pass filter, or an interference filter. Therefore, according to the claimed invention, there is provided a wavelength stabilized laser module having small component counts and being compact enough to be housed in such a tightly-spaced case for a semiconductor laser module used and being capable of setting a reference wavelength very easily with high accuracy and being manufactured at low cost.

U.S. Patent No. 6,018,536 to Alphonse (hereinafter "Alphonse") discloses a laser that produces light having multiple wavelengths. The laser includes a gain medium disposed within the laser resonance cavity, a dispersion element coupled to the gain medium and within the laser resonance cavity, and a wavelengths-elective element having non-abutting reflective segments.

U.S. Patent No. 6,233,263 to Chang-Hasnain et al. (hereinafter "Chang-Hasnain") discloses a monitoring and control assembly for an optical system that includes a tunable laser. The laser is disclosed as generating a divergent output beam along an optical axis.

U.S. Patent No. 5,446,750 to Ohtsuka et al. (hereinafter "Ohtsuka") discloses a laser diode pumped solid laser having an optical module with a laser diode, a solid laser crystal, which is excited by a beam generated by the laser diode, and a resonator. An electronic cooling device has a cooling surface, on which the optical module is placed, and a heat radiating surface.

Applicant respectfully submits that neither Alphonse, Chang-Hasnain, nor Ohtsuka, overcome the above-noted deficiencies of the Stayt reference with respect to Applicant's claimed invention. Accordingly, Applicant respectfully submits that nothing in the prior art of record,

teaches or suggests the claimed invention's features, including: *a lens to arrange light emitted from said semiconductor laser so as to be a single parallel luminous flux, a first photoelectric converting unit to receive one part of the parallel luminous flux and to convert it to a first electric signal; a filter to receive another part of said parallel luminous flux and to continuously change its transmittance depending on wavelengths of said light; and a second photoelectric converting unit to receive light transmitted through said filter and to convert it to a second electric signal.*

Moreover, specifically with respect to independent claim 13, Applicant respectfully submits that nothing in the prior of art teaches or suggests the filter is *fixed* to the second photoelectric converting unit. The previous Office Action states that Stayt discloses in Figure 4 that filter 331 is fixed to the second photoelectric converting unit 441; however, Stayt's Figure 4 shows only that an output of the filter is sent to the photoelectric converting unit 441, as illustrated by an arrow drawn from element 331 to element 441. Applicant respectfully submits that Stayt does not teach or suggest that the filter is fixed to the second photoelectric unit as is recited by Applicant.

Further, Applicant has added new claims 20, 21 and 22, that depend from independent claim 1, and respectfully submits that these claims are allowable over the prior art of record.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4038.

Respectfully submitted,
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